# JUN 0 6 2005 SeqListing.txt SEQUENCE LISTING <110> Zhu, Zhenping Witte, Larry <120> Antibodies Specific to KDR and Uses Thereof <130> 11245/46506 <140> 10/809,387 <141> 2004-03-23 <150> 09/976,787 <151> 2001-10-12 <150> 09/493,539 <151> 2000-01-28 <150> 60/117,726 <151> 1999-01-29 <160> 40 <170> WordPerfect 8.0 for Windows <210> 1 <211> 10 <212> PRT <213> Mus musculus <400> 1 Gly Phe Asn Ile Lys Asp Phe Tyr Met His <210> 2 <211> 17 <212> PRT <213> Mus musculus <400> 2 Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe Gln 5 10 15 Gly 17 <210> 3 <211> 8

<210> 4

<400> 3

<212> PRT

<213> Mus musculus

Tyr Tyr Gly Asp Tyr Glu Gly Tyr

```
<211> 10
<212> PRT
<213> Mus musculus
<400> 4
Ser Ala Ser Ser Ser Val Ser Tyr Met His 5
<210> 5
<211> 7
<212> PRT
<213> Mus musculus
<400> 5
Ser Thr Ser Asn Leu Ala Ser 5
<210> 6
<211> 9
<212> PRT
<213> Mus musculus
<400> 6
Gln Gln Arg Ser Ser Tyr Pro Phe Thr
<210> 7
<211> 117
<212> PRT
<213> Mus musculus
<400> 7
Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala 5 10 15
Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe 20 25 30
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe 50 60
Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65 70 75 80
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110
Val Thr Val Ser Ser
        115
```

```
<210> 8
<211> 108
<212> PRT
<213> Mus musculus
<400> 8
Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
5 10 15
Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met 20 25 30
His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr 35 40 45
Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser 50 60
Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
65 70 75 80
Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr 85 90 95
Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
100 105
<210> 9
<211> 30
<212> DNA
<213> Mus musculus
<400> 9
ggc ttc aac att aaa gac ttc tat atg cac
                                                                                     30
Ğİy Phe Asn Ile Lys Asp Phe Tyr Met His
1 5 10
<210> 10
<211> 51
<212> DNA
<213> Mus musculus
<400> 10
tgg att gat cct gag aat ggt gat tct ggt tat gcc ccg aag ttc cag Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe Gln 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
                                                                                     48.
                                                                                     51
б1̈́у
17
<210> 11
<211> 24
<212> DNA
<213> Mus musculus
```

<400> 11							,	9						
tac tat ggt Tyr Tyr Gly	gac Asp	tac Tyr 5	gaa Glu	ggc Gly	tac Tyr									24
<210> 12 <211> 30 <212> DNA <213> Mus m	uscu	lus												
<400> 12														
agt gcc agc Ser Ala Ser														30
<210> 13 <211> 21 <212> DNA <213> Mus m	uscu	lus												
<400> 13														
agc aca tcc Ser Thr Ser														21
<210> 14 <211> 27 <212> DNA <213> Mus m	uscu	lus												
<400> 14														
cag caa agg Gln Gln Arg														27
<210> 15 <211> 351 <212> DNA <213> Mus m	เนรсน	lus												
<400> 15														
cag gtc aag Gln Val Lys 1	ctg Leu	cag Gln 5	cag Gln	tct Ser	ggg Gly	gca Ala	gag Glu 10	ctt Leu	gtg Val	ggg Gly	tca Ser	ggg Gly 15	gcc Ala	48
tca gtc aaa Ser Val Lys														96
tat atg cac Tyr Met His 35	Trp													144
gga tgg att	gat	cct	gag	aat	ggt	gat		ggt ge 4	tat	gcc	ccg	aag	ttc	192

Gly Trp Ile	Asp Pro		sn Gly		qList Ser			Ala	Pro	Lys	Phe	
cag ggc aag Gln Gly Lys 65	gcc acc Ala Thr	atg ad Met Th 70	t gca ir Ala	gac Asp	tca Ser	tcc Ser 75	tcc Ser	aac Asn	aca Thr	gcc Ala	tac Tyr 80	240
ctg cag ctc Leu Gln Leu	agc agc Ser Ser 85	ctg ac Leu Th	a tct ir Ser	gag Glu	gac Asp 90	act Thr	gcc Ala	gtc Val	tat Tyr	tac Tyr 95	tgt Cys	288
aat gca tac Asn Ala Tyr	tat ggt Tyr Gly 100	gac ta Asp Ty	ac gaa ⁄r Glu	ggc Gly 105	tac Tyr	tgg Trp	ggc Gly	caa Gln	999 Gly 110	acc Thr	acg Thr	336
gtc acc gtc Val Thr Val 115	tcc tca Ser Ser											351
<210> 16 <211> 324 <212> DNA <213> Mus mu	usculus			,								
<400> 16												
gac atc gag Asp Ile Glu	ctc act Leu Thr 5	cag to Gln Se	ct cca er Pro	gca Ala	atc Ile 10	atg Met	tct Ser	gca Ala	tct Ser	cca Pro 15	ggg Gly	48
gag aag gtc Glu Lys Val	acc ata Thr Ile 20	acc to	gc agt /s Ser	gcc Ala 25	agc Ser	tca Ser	agt Ser	gta Val	agt Ser 30	tac Tyr	atg Met	96
cac tgg ttc His Trp Phe 35												144
agc aca tcc Ser Thr Ser 50		Ăla S										192
gga tct ggg Gly Ser Gly 65	acc tct Thr Ser	tac to Tyr Se 70	ct ctc er Leu	aca Thr	atc Ile	agc Ser 75	cga Arg	atg Met	gag Glu	gct Ala	gaa Glu 80	240
gat gct gcc Asp Ala Ala	act tat Thr Tyr 85	tac to	gc cag /s Gln	caa Gln	agg Arg 90	agt Ser	agt Ser	tac Tyr	cca Pro	ttc Phe 95	acg Thr	288
ttc ggc tcg Phe Gly Ser	ggg acc Gly Thr 100	aag ci Lys Le	tg gaa eu Glu	ata Ile 105	aaa Lys	cgg Arg	gcg Ala					324
<210> 17 <211> 15 <212> PRT <213> Artif	icial Se	quence										
<220> <223> peption	de linke	r			Par	ne 5						

```
<400> 17
Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser 10 15
<210> 18
<211> 45
<212> DNA
<213> Artificial Sequence
<223> nucleic acid encoding peptide linker
<400> 18
ggt gga ggc ggt tca ggc gga ggt ggc tct ggc ggt ggc gga tcg
Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser
5 10 15
                                                                           45
<210> 19
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> peptide linker
<400> 19
Gly Gly Gly Ser Gly Gly Gly Ser 5
<210> 20
<211> 15
<212> DNA
<213> Artificial Sequence
<220>
<223> nucleic acid encoding peptide linker
<400> 20
ggt gga ggc ggt tca
Gly Gly Gly Gly Ser
                                                                             15
<210> 21
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> peptide linker
<400> 21
Gly Gly Gly Ser
```

<210> 22

```
<211> 17
<212> PRT
<213> Mouse
<400> 22
Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe Gln
1 5 10 15
Gly
17
<210> 23
<211> 117
<212> PRT
<213> Mouse
<400> 23
Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
1 5 10 15
Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe 20 25 30
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe 50 60
Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65 70 75 80
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110
Val Thr Val Ser Ser
         115
<210> 24
<211> 106
<212> PRT
<213> Mouse
<400> 24
Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1 1 15
Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met 20 25 30
His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr 35 40 45
                                          Page 7
```

Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser 50 55 60	
Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu 65 70 75 80	
Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr 85 90 95	
Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys 100 105	
<210> 25 <211> 51 <212> DNA <213> Mouse	
<400> 25	
tgg att gat cct gag aat ggt gat tct gat tat gcc ccg aag ttc cag Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe Gln 1 5 10	48
ggc Gly 17	51
<210> 26 <211> 351 <212> DNA <213> Mouse	
<400> 26	
cag gtc aag ctg cag tct ggg gca gag ctt gtg ggg tca ggg gcc Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala 1 5 10 15	48
tca gtc aaa ttg tcc tgc aca act tct ggc ttc aac att aaa gac ttc Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe 20 25 30	96
tat atg cac tgg gtg aag cag agg cct gaa cag ggc ctg gag tgg att Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile 35 40 45	144
gga tgg att gat cct gag aat ggt gat tct gat tat gcc ccg aag ttc Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe 50 55 60	192
Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe. 50 55 60	192 240

336

aat gca tac tat ggt gac tac gaa ggc tac tgg ggc caa ggg acc acg Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr 100 105 110

gtc acc gtc Val Thr Val 115	tcc tca Ser Ser				351
<210> 27 <211> 318 <212> DNA <213> Mouse					
<400> 27					
gac atc gag Asp Ile Glu 1	ctc act Leu Thr	cag tct cca Gln Ser Pro	gca atc atg Ala Ile Met 10	tct gca tct Ser Ala Ser	cca ggg 48 Pro Gly 15
				agt gta agt Ser Val Ser 30	
cac tgg ttc His Trp Phe 35	cag cag Gln Gln	aag cca ggc Lys Pro Gly 40	act tct ccc Thr Ser Pro	aaa ctc tgg Lys Leu Trp 45	att tat 144 Ile Tyr
agc aca tcc Ser Thr Ser 50	aac ctg Asn Leu	gct tct gga Ala Ser Gly 55	gtc cct gct Val Pro Ala	cgc ttc agt Arg Phe Ser 60	ggc agt 192 Gly Ser
				cga atg gag Arg Met Glu	
gat gct gcc Asp Ala Ala	act tat Thr Tyr 85	tac tgc cag Tyr Cys Gln	caa agg agt Gln Arg Ser 90	agt tac cca Ser Tyr Pro	ttc acg 288 Phe Thr 95
ttc ggc tcg Phe Gly Ser	ggg acc Gly Thr 100	aag ctg gaa Lys Leu Glu	ata aaa Ile Lys 105		318
<210> 28 <211> 240 <212> PRT <213> Mouse					
<400> 28					
Gln Val Lys 1	Leu Gln 5	Gln Ser Gly	Ala Glu Leu 10	Val Gly Ser	Gly Ala 15
Ser Val Lys	Leu Ser 20	Cys Thr Thr	Ser Gly Phe 25	Asn Ile Lys 30	Asp Phe
Tyr Met His 35	Trp Val	Lys Gln Arg 40	Pro Glu Gln	Gly Leu Glu 45	Trp Ile
Gly Trp Ile 50	Asp Pro	Glu Asn Gly 55	Asp Ser Gly	Tyr Ala Pro 60	Lys Phe
Gln Gly Lys 65	Ala Thr	Met Thr Ala 70	Asp Ser Ser 75 Page 9	Ser Asn Thr	Ala Tyr 80

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr Tyr Gly Gln Asp Tyr Glu Gln Gly Tyr Trp Gly Gln Gly Tyr Tyr Cys 95 Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser Gly

<sup>&</sup>lt;210> 29

<sup>&</sup>lt;211> 238

<sup>&</sup>lt;212> PRT <213> Mouse

<sup>&</sup>lt;400> 29

SeqListing.txt Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser 130 135 140 Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser 145 150 155 160 Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
165 170 175 Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg 180 185 190 Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg 195 200 205 Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser 210 215 220 Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys 225 235 <210> 30 <211> 720 <212> DNA <213> Mouse <400> 30 cag gtc aag ctg cag cag tct ggg gca gag ctt gtg ggg tca ggg gcc Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala 1 5 10 15 tca gtc aaa ttg tcc tgc aca act tct ggc ttc aac att aaa gac ttc Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe 20 25 30tat atg cac tgg gtg aag cag agg cct gaa cag ggc ctg gag tgg att Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile 35 45 gga tgg att gat cct gag aat ggt gat tct ggt tat gcc ccg aag ttc

48 96 144 192 GTy Trp Ile Asp Pro GTu Asn GTy Asp Ser GTy Tyr ATa Pro Lys Phe 50 55 60 cag ggc aag gcc acc atg act gca gac tca tcc tcc aac aca gcc tac Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr 65 70 75 80 240 ctg cag ctc agc agc ctg aca tct gag gac act gcc gtc tat tac tgt Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys  $85 \hspace{1cm} 90 \hspace{1cm} 95$ 288 aat gca tac tat ggt gac tac gaa ggc tac tgg ggc caa ggg acc acg Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr 100 105 110336 gtc acc gtc tcc tca ggt gga ggc ggt tca ggc gga ggt ggc tct ggc Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly 115 120 125 384 ggt ggc gga tcg gac atc gag ctc act cag tct cca gca atc atg tct Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser 432 Page 11

Ala Ser 145	cca Pro	ggg Gly	gag Glu	aag Lys 150	gtc Val	acc Thr	ata Ile	acc Thr	tgc Cys 155	agt Ser	gcc Ala	agc Ser	tca Ser	agt Ser 160	480
gta agt Val Ser	tac Tyr	atg Met	cac His 165	tgg Trp	ttc Phe	cag Gln	cag Gln	aag Lys 170	cca Pro	ggc Gly	act Thr	tct Ser	ccc Pro 175	aaa Lys	528
ctc tgg Leu Trp	att Ile	tat Tyr 180	agc Ser	aca Thr	tcc Ser	aac Asn	ctg Leu 185	gct Ala	tct Ser	gga Gly	gtc Val	cct Pro 190	gct Ala	cgc Arg	576
ttc agt Phe Ser	ggc Gly 195	agt Ser	gga Gly	tct Ser	ggg Gly	acc Thr 200	tct Ser	tac Tyr	tct Ser	ctc Leu	aca Thr 205	atc Ile	agc Ser	cga Arg	624
atg gag Met Glu 210	Ala	gaa Glu	gat Asp	gct Ala	gcc Ala 215	act Thr	tat Tyr	tac Tyr	tgc Cys	cag G1n 220	caa Gln	agg Arg	agt Ser	agt Ser	672
tac cca Tyr Pro 225	ttc Phe	acg Thr	ttc Phe	ggc Gly 230	tcg Ser	ggg Gly	acc Thr	aag Lys	ctg Leu 235	gaa Glu	ata Ile	aaa Lys	cgg Arg	gcg Ala 240	720
<210> 31 <211> 714 <212> DNA <213> Mouse															
<400> 3	1														
cag gtc Gln Val	aag Lys	ctg Leu	cag Gln 5	cag Gln	tct Ser	ggg Gly	gca Ala	gag Glu 10	ctt Leu	gtg Val	ggg Gly	tca Ser	999 Gly 15	gcc Ala	48
cag gtc Gln Val	Lys	Leu ttg	GIn 5 tcc	GIn tgc	ser	act	Ala tct	Glu 10 agc	Leu ttc	val	Gly	ser aaa	Gly 15 gac	Ala	48 96
cag gtc Gln Val 1	aaa Lys cac	ttg Leu 20	tcc ser	tgc Cys	ser aca Thr	act Thr	tct ser 25	agc Ser	ttc Phe	aac Asn	att Ile	aaa Lys 30	Gly 15 gac Asp	ttc Phe	
cag gtc Gln Val 1 tca gtc Ser Val	aaa Lys cac His 35 att	ttg Leu 20 tgg Trp	GIn 5 tcc ser gtg Val	tgc Cys aag Lys	ser aca Thr cag Gln aat	act Thr agg Arg 40 ggt	tct ser 25 cct Pro	agc ser gaa Glu	ttc Phe cag Gln gat	aac Asn ggc Gly	att Ile ctg Leu 45	aaa Lys 30 gag Glu	gac Asp tgg Trp	ttc Phe att Ile	96
cag gtc Gln Val 1 tca gtc Ser Val tat atg Tyr Met	aaa Lys cac His 35 att Ile	ttg Leu 20 tgg Trp gat Asp	gtg val cct Pro	tgc Cys aag Lys gag Glu	aca Thr cag Gln aat Asn 55	act Thr agg Arg 40 ggt Gly	tct ser 25 cct Pro gat Asp	agc ser gaa Glu tct ser	ttc Phe cag Gln gat Asp	aac Asn ggc Gly tat Tyr 60	att Ile ctg Leu 45 gcc Ala	aaa Lys 30 gag Glu ccg Pro	gac Asp tgg Trp aag Lys	ttc Phe att Ile ttc Phe	96 144
cag gtc Gln Val 1 tca gtc Ser Val tat atg Tyr Met gga tgg Gly Trp 50 cag ggc Gln Gly	aaa Lys cac His 35 att Ile aag Lys	ttg Leu 20 tgg Trp gat Asp gcc Ala	din 5 tcc ser gtg Val cct Pro acc Thr	tgc Cys aag Lys gag Glu atg Met 70	aca Thr cag Gln aat Asn 55 act Thr	act Thr agg Arg 40 ggt Gly gca Ala	tct ser 25 cct Pro gat Asp gac Asp	agc ser gaa Glu tct ser tca ser	ttc Phe cag Gln gat Asp tcc ser 75 act	aac Asn ggc Gly tat Tyr 60 tcc ser	att Ile ctg Leu 45 gcc Ala aac Asn	aaa Lys 30 gag Glu CCg Pro aca Thr	gac Asp tgg Trp aag Lys gcc Ala	ttc Phe att Ile ttc Phe tac Tyr 80	96 144 192
cag gtc Gln Val 1 tca gtc Ser Val tat atg Tyr Met gga tgg Gly Trp 50 cag ggc Gln Gly 65 ctg cag	aaa Lys cac His 35 att Ile aag Lys ctc Leu tac	ttg Leu 20 tgg Trp gat Asp gcc Ala agc ser	tcc ser gtg Val cct Pro acc Thr agc ser 85	tgc Cys aag Lys gag Glu atg Met 70 ctg Leu	aca Thr cag Gln aat Asn 55 act Thr aca Thr	act Thr agg 40 ggt gCa Ala tct gaa	tct ser 25 cct Pro gat Asp gac Asp	agc ser gaa Glu tct ser tca Ser gac Asp 90 tac	ttc Phe cag Gln gat Asp tcc Ser 75 act Thr	aac Asn ggc Gly tat Tyr 60 tcc Ser gcc Ala	att Ile ctg Leu 45 gcc Ala aac Asn gtc Val	aaa Lys 30 gag Glu ccg Pro aca Thr tat Tyr ggg	gac Asp tgg Trp aag Lys gcc Ala tac Tyr 95 acc	ttc Phe att Ile ttc Phe tac Tyr 80 tgt Cys	96 144 192 240

Val Thr Val Ser Se 115	Se er Gly Gly Gly 120	qListing.txt ser Gly Gly Gly 125	Ser Ser Gly
ggt ggc gga tcg ga Gly Gly Gly Ser As 130	c atc gag ctc act p Ile Glu Leu Thr 135	cag tct cca gca Gln Ser Pro Ala 140	atc atg tct 432 Ile Met Ser
gca tct cca ggg ga Ala Ser Pro Gly Gl 145	g aag gtc acc ata u Lys Val Thr Ile 150	acc tgc agt gcc Thr Cys Ser Ala 155	agc tca agt 480 Ser Ser Ser 160
gta agt tac atg ca Val Ser Tyr Met Hi 16	s Trp Phe Gln Gln	aag cca ggc act Lys Pro Gly Thr 170	tct ccc aaa 528 Ser Pro Lys 175
ctc tgg att tat ag Leu Trp Ile Tyr Se 180	c aca tcc aac ctg r Thr Ser Asn Leu 185	gct tct gga gtc Ala Ser Gly Val	cct gct cgc 576 Pro Ala Arg 190
ttc agt ggc agt gg Phe Ser Gly Ser Gl 195	a tct ggg acc tct y Ser Gly Thr Ser 200	tac tct ctc aca Tyr Ser Leu Thr 205	atc agc cga 624 Ile Ser Arg
atg gag gct gaa ga Met Glu Ala Glu As 210	t gct gcc act tat p Ala Ala Thr Tyr 215	tac tgc cag caa Tyr Cys Gln Gln 220	agg agt agt 672 Arg Ser Ser
tac cca ttc acg tt Tyr Pro Phe Thr Ph 225	c ggc tcg ggg acc le Gly Ser Gly Thr 230	aag ctg gaa ata Lys Leu Glu Ile 235	aaa 714 Lys
<210> 32 <211> 19 <212> PRT <213> Mouse			
<220> <223> leader pepti	de		
<400> 32			
Met Gly Trp Ser Cy 1	s Leu Ile Leu Phe 5	Leu Val Ala Thr 10	Ala Thr Gly 15
Val His Ser 19			
<210> 33 <211> 57 <212> DNA <213> Mouse			
<400> 33			
atg gga tgg tca tg Met Gly Trp Ser Cy 1	pt ctc atc ctt ttt /s Leu Ile Leu Phe 5	cta gta gca act Leu Val Ala Thr 10	gca act gga 48 Ala Thr Gly 15
gta cat tca Val His Ser		Page 13	57

```
<210> 34
<211> 19
<212> PRT
<213> Mouse
<220>
<223> leader peptide
<400> 34
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
10 15
Val His Ser
<210> 35
<211> 57
<212> DNA
<213> Mouse
<400> 35
atg gga tgg tca tgt atc atc ctt ttt cta gta gca act gga Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly 10 15
                                                                                48
gta cat tca
                                                                                57
Val His Ser
<210> 36
<211> 42
<212> DNA
<213> Artificial Sequence
<220>
<223> amplification primer
<400> 36
ctagtagcaa ctgcaactgg agtacattca gacatcgagc tc
                                                                                42
<210> 37
<211> 36
<212> DNA
<213> Artificial Sequence
<220>
<223> amplification primer
<400> 37
tcgatctaga aggatccact cacgttttat ttccag
                                                                                36
<210> 38
```

Page 14

<211> <212> <213>		sequisting.	itxt	
<220> <223>	amplification primer			
<400>	38			
ctagta	agcaa ctgcaactgg agtacattca	caggtcaagc	tg	42
<210> <211> <212> <213>	30			
<220> <223>	amplification primer			
<400>	39			
tcgaag	ggatc cactcacctg aggagacggt			30
<210> <211> <212> <213>	51			
<220> <223>	amplification primer			
<400>	40			
qqtcaa	aaagc ttatgggatg gtcatgtatc	atcctttttc	tagtagcaac t	51